Bibliographic resources and research tools for Industrial Engineering

A presentation for PhD students
2018 edition – January

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Workshop materials

Workshop slides are available here:

http://biblioingegneriabernardi.cab.unipd.it/bibliocentrale/usa/laboratori/materiali/materiali

Bibliographic research steps

- Identify your topic and keywords

- Choose the proper tools (catalogues, databases…)

- Collect and evaluate useful documents (articles, papers, technical reports…)

- Create your bibliography using the correct citation style and citing the source

What are Bibliographic Databases?

- A **bibliographic database** is a database of bibliographic records, an organized digital collection of references to published literature, including journal and newspaper articles, conference proceedings, reports, government and legal publications, patents, books, etc. In contrast to library catalogue entries, a large proportion of the bibliographic records in bibliographic databases describe articles, conference papers, etc., rather than complete monographs, and they generally contain very rich subject descriptions in the form of keywords, subject classification terms, or abstracts.

- A **bibliographic database** may be general in scope or cover a specific academic discipline.

Why use Bibliographic Databases?

- Bibliographic databases allow you to **use keywords** to search across thousands of different journal titles and conference proceedings at the same time for papers in a specific subject area.
- This **saves you a lot of time** as you do not have to search through individual publications.
- The papers have been through some form of "**quality control**" to ensure that the information is more reliable and valid than information you may find by searching the internet (better than Google search!).
- Bibliographic databases allow you to **create a structured search** by helping you to identify relevant keywords, to combine keywords together and to limit your search.
- Bibliographic databases give you the citation or reference details about the articles you have found so that you can **locate the full text**.
- Bibliographic databases usually **provide links to the abstract or summary** of the article so that you can evaluate the its relevance.
- If the University has an electronic subscription to the journal or conference proceedings, you will **have online access to the full text** of the paper.
- Bibliographic databases **are regularly updated** giving you access to the most current research.

(Engineering) Bibliographic Databases

Web of Science (Thompson Reuters bibliographic and citation database of peer-reviewed literature)

Scopus (Elsevier bibliographic and citation database of peer-reviewed literature)

Engineering Village (Compendex is the most comprehensive interdisciplinary engineering database in the world)

IEEE Xplore (full-text electrical engineering, computer science, and electronics bibliographic database)

Business Source Complete (bibliographic database about management, economics, finance, business…)

Reaxys (Reaxys is a web-based search and retrieval system for chemical compounds, bibliographic data and chemical reactions)

Web of Science

COVERAGE: multidisciplinary
TIME RANGE: 1985-
DOCUMENT TYPES: articles, proceedings papers

Scopus

Bibliometrics

BIBLIOMETRICS is a set of mathematical and statistical methods used to analyze and measure the quantity and quality of books, articles, and other forms of publications.

Bibliometrics
- identifies the best journals of a specific discipline
- defines the prestige of a specific journal
- determines the impact of published research

Bibliometrics evaluates:
- scientific journals
- single researchers
- research groups

Bibliometrics indicators

Bibliometric indicators are very important for researchers and organizations, as these measurements are often used in funding decisions and promotions of researchers.
They are becoming increasingly important since published research results are read and then quoted by other researchers.

quantity indicators: measure the productivity of a particular researcher (**Impact Factor; SNIP, SCImago**)
quality indicators: measure the quality or performance of a researcher's output; corresponds to the so called "peer-review" : a review by colleague-scientists (*h*-**index**)

Impact factor

The **impact factor (IF**) is a measure of the frequency with which the average article in a journal has been cited in a particular year.
It is used to measure the importance or rank of a journal by calculating the times its articles are cited.

How Impact Factor is Calculated?
The calculation is based on a two-year period and involves dividing the number of times articles were cited by the number of articles that are citable.
The Impact Factor is used to compare different journals within a specific disciplinary field.

The **Journal of Citation Report** indexes more than 11,000 science and social science journals.
It is important to note that Impact Factor is a journal metric and should not be used to assess individual researchers or institutions.

H-Index

The **_h_-index** quantifies an individual's scientific research output. (by J.E. Hirsch)

The **_h_-index** evaluates an author impact inside a specific scientific community on the basis of the number of his/her publications and citations obtained.
The _h_-index is one of the most important function in **Scopus**

SCImago Journal Ranking

SCImago is a database that can be accessed for free online, which allows you to obtain statistics on the citations of articles published in peer-reviewed journals. It provides statistics and compares the number of published articles and citations in each country.

Journal ranking
Country rankings

Engineering Village

IEEE

Business Source Complete

Reaxys

Google Scholar

UNIVERSITÀ
DEGLI STUDI
DI PADOVA

SBA

SISTEMA BIBLIOTECARIO
DI ATENEO

Google Scholar

⦿ Articles   ◯ Case law

Stand on the shoulders of giants

Go to Google Scholar

About publishing

Publishing in scholarly journals

- If you want to publish the output of your research, the first step you take is the submission of your "manuscript" to the editor of a chosen journal.
- The manuscript can be rejected outright or be sent to reviewers.
- Reviewers evaluate the manuscript and may ask the author to apply amendments.
- In the end, if the manuscript is accepted it is published in a journal as a **peer-reviewed** article.

Intellectual property in scientific communication

- **IP rights (Industrial Property):** patents, industrial design rights, trademarks, plant variety rights, trade dress, and in some jurisdictions trade secrets.

- **Copyright:** gives the creator of an original work exclusive rights to it. Usually, for a limited time.
  <u>Economic rights</u> allow the rights owner to derive financial reward from the use of his works by others
  <u>Moral rights</u> allow the author to take certain actions to preserve the personal link between himself and the work

Who retains these rights:
- authors
- publishers (when author tranfers them to a third party)

Copyright applies to theses and dissertations, as well.

Contracts with publishers

"Scholarly journals publishers have traditionally required authors **to sign over all of the rights** when their article is ready for publication".

When a paper is accepted for publication, usually the author signes over copyright to the publisher of the journal in which his/her article appears (moral rights, being personal to the author, can never be transferred).

Authors need to be aware of current intellectual property and copyright laws if they want reuse their works after publication.
Some publishers allow free access to articles in open archives, others allow access only under certain conditions, and still others don't allow free access at all.

Check information about **publishers' open access policies** on Sherpa-Romeo

Open access (OA)

- OA refers to the **free and open availability of scholarly content** in the Internet, OA materials are available via:

    - ✓ Digital repositories/archives – (Green road)
    - ✓ Scholarly journals – (Gold road)

- OA can apply to all forms of published research output, including peer-reviewed academic journal articles, conference papers, theses, book chapters, and monographs.

- Anyone who has a computer and an internet connection can download and use scholarly information.

    http://bibliotecadigitale.cab.unipd.it/en/publishing_EN/OA

Open access (OA)

- **Green road = OA self-archiving**. Authors deposit articles in an institutional repository (IR).
- **Gold road = Traditional publishers** who publish both traditionally subscription-based journals and open access journals.
- **Open access publishers** (some are subsidized, some require payment from authors' or authors' institutions/employers)

http://www.livingreviews.org/open-access.html

Open access (OA)

- *«OA can benefit everyone, not just academics»*

- Researchers can read and build on the findings of others without restriction - **accelerated discovery**

- The outcomes of public funded scientific and medical research are available to taxpayers to see the results of their investment - **public enrichment**

- Teachers and their students have access to the latest research findings throughout the world - **improved education**

  https://www.plos.org/open-access/

Open access journals

- There are full open access journals.
- Hybrid open access journals where only some of the content is open access.
- Delayed open access journals where the content is made open access after a delay (e.g. 12 or 24 months).

Predatory publishers

Beall's List is a regularly-updated report by Jeffrey Beall, about what he named "predatory publications".

Scholarly Open Access
Critical analysis of scholarly open-access publishing (Beall's List or Publishers)
https://beallslist.weebly.com/

Beyond Beall's List
Better understanding predatory publishers
Monica Berger and Jill Cirasella
http://crln.acrl.org/index.php/crlnews/article/view/9277/10341

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The Directory of Open Access Journals

Mandates

Research funders, such as Universities or grant agencies, may adopt **policies** requiring their funded researchers **to deposit their research output in open access repositories.**

Mandates

Digital repositories at Padova University

Padua@Thesis is the institutional digital repository for full-text **degree theses**, for which students issue a disclaimer. For further information contact your library.

Padua@Research is the institutional digital repository for **research papers and doctoral dissertations.**

http://bibliotecadigitale.cab.unipd.it/en/open-archives

Digital repositories at Padova University

Digital Library

The resources shelf (ITA)
EasySearch
Off-campus connection
Reference management
Digital collections
Virtual exhibitions
Digital repositories
About publishing

What are you looking for?

Books and journals
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Go to Padua@Research

Embargo. What to know and what to avoid before submitting. **Go to the tutorial.**

Digital repositories at Padova University

Digital repositories at Padova University

Citations

- **Remember**!

Cite every source to:

- give scientific credit to your work
- avoid plagiarism

Digital library (English version)
http://bibliotecadigitale.cab.unipd.it/en/about-publishing-new

Reference managers

You can:

- import, collect, organize and save references taken from bibliographic databases, books, web pages or other sources

- format bibliographies automatically in several referencing styles

- insert bibliographies and citations directly into a text
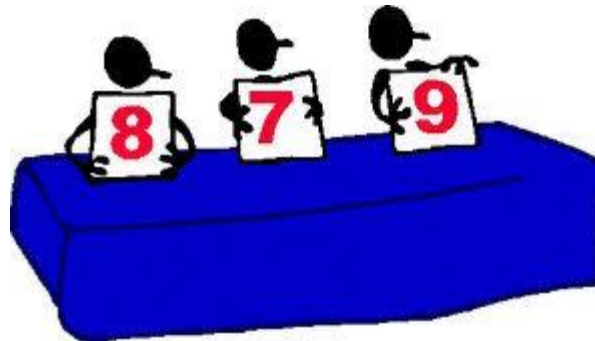
- share references with colleagues

Reference managers

A comparison chart between Mendeley, Zotero, Endnote basic

http://bibliotecadigitale.cab.unipd.it/en/refworks

Zotero	Endonote Basic	Mendeley
Web based	Web based	Web based
Free (up to 300 MB)	Free for Unipd users	Free (up to 2 GB)
It works offline		It works offline
downloading images and URL		
Data storage free up to 300 MB	Data storage free up to 2Gb	Data storage free up to 2Gb
Sharing bibliography	Sharing bibliography	Sharing bibliography
Import citation	Import citation	Import citation
Adding or modifying style citation	More common citation style	Adding or modifying style citation
Simplicity	Stability	Simplicity

Evaluation questionnaire

www.cab.unipd.it/corsi-sba-questionario

Login:20208

Password: blank

Thank you for your attention!

LIBRARIAN

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